ABSTRACT OF THE DISCLOSURE

A multiple-article carrier comprising a depressed top panel, a crown cover panel and a side panel. The carrier is useful for packaging articles, preferably of the bottle type. Both lateral and longitudinal support is afforded by bonding the carrier to the carried articles and by bonding the carried articles to each other.

BACKGROUND

This invention relates to a multiple-article carrier. More particularly, this invention relates to a multiple-article carrier which is formed from a single blank of sheet material. Still more particularly, this invention relates to a multiple-article carrier wherein the bottom support is obtained by bonding the carrier sheet material to the articles which are carried.

Several multiple-article carriers are known in the prior art. In general, these carriers may be classified as basket carriers, wrap-around packages or carriers and neck-support carriers. It will be appreciated that such classification depends, principally, on the particular design employed.

A significant disadvantage associated with the prior art carriers, especially the wrap-around and basket types, is that their assembly or loading requires steps of such number or manner of manipulation as to preclude their use in high speed packaging operations. Moreover, these carriers require an appreciable amount of blank material, thereby increasing their cost.

The neck-support carriers do not lend themselves to use with articles such as bottles, and the like, since these carriers afford no support at or near the bottom of the carried articles. Moreover, the neck-support carriers are not desirable for many applications, since they do not afford display panels for advertising and they do not afford protection against light to the material which is packaged.

BRIEF DESCRIPTION OF THE INVENTION

Accordingly, it is an object of this invention to provide an improved multiple-article carrier. Another object of this invention is to provide a multiple-article carrier which can be prepared from a single blank of sheet material. Still another object of this invention is to provide a multiple-article carrier which can be used in high-speed packaging operations. Yet another object of this invention is to provide a multiple-article carrier which can be prepared with a reduced amount of blank material. A still further object of this invention is to provide a multiple-article carrier which affords display panels which are suitable for advertising purposes. These and other objects and advantages will be apparent from the description hereinafter set forth and the accompanying drawings.

In accordance with the present invention, the foregoing, and other objects, are accomplished with a carrier prepared from a blank which is designed with a depressed top panel stressed to hold the articles in a vertical position upon elevation, and side panels which extend downwardly from the depressed top panel to at least a point where the side panel is bonded to one or more of the articles which are enclosed by said carrier. In general, the depressed top panel will comprise at least two sections which are pivotally connected along a longitudinal axis. To afford maximum longitudinal support, the side panels should be bonded to each of the articles in the outside rows at least one point. To afford maximum latitudinal support, the adjoining bottles should be bonded at least one point in a latitudinal plane.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a unitary blank cut and scored in a manner necessary to the formation of a carrier as shown in FIG. 2;
FIG. 2 is a perspective view of a typical package embracing the present invention;
FIG. 3 is a top view of the package shown in FIG. 2;
FIG. 4 is a section of the package shown in FIG. 2 which is cut laterally across a terminal pair of adjacent articles;
FIG. 5 is a section of the package shown in FIG. 2 which is cut laterally across the pair of articles within the handle section;
FIG. 6 is a section of the package shown in FIG. 2 which is cut longitudinally along the center of said package;
FIG. 7 is a section of the package, as shown in FIG. 2, held in an elevated position, cut longitudinally along the center of said package;
FIG. 8 is a section of the package shown in FIG. 2 cut laterally across a terminal pair of adjacent articles while said package is held in an elevated position;
FIG. 9 is a section of the package shown in FIG. 2 cut laterally across the pair of articles within the handle section while said package is held in an elevated position.

DETAILED DESCRIPTION

Referring now to FIG. 1, there is shown a unitary sheet of blank material which is cut and scored so as to define the boundaries of the various panels and other elements on the carrier. The blank may be prepared from paperboard, polymeric materials, etc. The top panel 1, is divided into substantially equal halves by a longitudinally extending, scored fold line 2, which allows the top panel to adopt a V-shape when the blank is fixed over the crowns of the articles to be carried. The top panel 1, is pivotally connected to the crown cover panels 3 and 4, which are disposed at the lateral edges of the top panel. The crown cover panels 3 and 4, are pivotally connected to the top panel 1, along longitudinally extending, scored fold lines 5, 6, 7, 8, and 9, and 10'. These scored, fold lines, although traversing the entire length of the top panel 1, do not extend through the crown covers 7, 8, 9, and 10'. Cut lines 9, 10, 11, and 12', define the inside boundary of the crown covers 7, 8, 9, and 10', and 11', respectively, and are shaped such that the cut-away portion of the top panel will lock under the crowns of the carried articles when said panel is depressed into a V-shape. The side panels 11 and 12, are pivotally connected to the crown cover panels 3 and 4, by longitudinally extending, scored fold lines 13, 14, 15, and 16. These fold lines, although traversing the entire length of the crown cover panels, also do not extend through the crown covers 7, 8, 9, and 10'. Cut lines 15, 16, 17, and 18 define the outside boundaries of the crown covers 7, 8, 9, and 10', respectively, and are shaped such that the side panels can extend downwardly without obstruction from the crowns.

The top panel 1, as shown in FIG. 1, comprises a handle or lifting section 17. The boundaries of this section are defined by scored lines 18 and 19, which extend inwardly from the edges of said top panel to a point of intersection 22, at one end of said section and scored lines 20 and 21 which intersect at a point 23, at the opposite end of said section. These scored lines cooperate with scored lines 24, 25, 26 and 27 to permit the carrier to be
elevated without distorting the V-shape at the terminal ends of said top panel. It will be appreciated that the position of the scored lines will be dependent on the size and shape of the articles which are to be enclosed in the handle section of the present invention. C-shaped blocking units 30 and 31, are included in the handle or lifting section to allow the carrier to be lifted without disengaging the crown locks in the handle area. The inside boundaries of the C-shaped blocking units are defined by cut lines 28 and 29.

In order to better understand the present invention, reference is made to FIG. 2, which is a perspective view of a package embracing said invention. As can be seen in FIG. 2, the top panel 1, adopts a V-shape when the edges along cut lines 9, 9', 9", 10, 10', and 10" are locked under the crown 32, 32', 32", 33, 33', and 33", and the package is otherwise assembled. As can also be seen, the side panels 11 and 12, extend downwardly, without obstruction, to a point or points 34, 34', 34", 35, 35', and 35", where said panels are bonded to one or more articles 56, contained in said package. It will be appreciated that side panel 12 is bonded to each of the articles in the back row at points 35, 35' and 35", although this is not conveniently shown in the figure. Any suitable means of bonding, such as an adhesive or heat sealing, can be used to bond the side panels to the articles. It will be appreciated that the bonding means employed in a given case will depend upon the materials used in constructing both the side panels and the articles. It will also be appreciated that the bond should be one which can be easily broken for purposes of removing the articles from the package. The location of the point or points at which the side panels are bonded is not critical, and hence, can be varied over the entire height of the article. In general, the location of the bond will depend upon the shape of the article and aesthetic considerations. Maximum lateral support is obtained when the bond is located below the center point of the article and when each article contacting the side panels is bonded thereto.

To provide lateral support, each pair of adjacent articles are bonded at least one point in a lateral plane. It will be appreciated that each pair of articles, along the length of the carrier, are bonded, although this has not been shown in FIG. 2. Any suitable means may be used for bonding the adjacent articles, such as adhesives and heat sealing. The selection of a suitable adhesive will depend upon the materials used in the article construction. It will be apparent that when the articles are constructed of a thermoplastic material, heat sealing will be a most convenient method of bonding the adjacent articles.

FIGS. 3-9 are sectional views of the package shown in FIG. 2 designed to show certain features of the present invention in greater detail. FIG. 3 is a top view of the package shown in FIG. 2 and shows the handle section of the carrier more clearly. As shown in FIG. 3, the handle section 17, is defined by scored lines 18 and 19 which intersect at a point 22, on one end and scored lines 20 and 21 which intersect at a point 23, at the other end. Panels 39 and 40 can be easily punched out to enable lifting of the package. When the package is lifted, scored lines 24 and 25 cooperate with scored lines 18 and 19 while scored lines 26 and 27 cooperate with scored lines 20 and 21 to prevent distortion of the V-shape at the terminal ends of the carrier. Moreover, when the package is lifted, the handle section 17, breaks away from the block units 30 and 34, along lines 28 and 29. This permits the C-shaped blocking unit to remain locked under the crown, thereby preventing dropage of the articles contained in the handle section.

FIG. 4 is a section cut laterally across a terminal pair of adjacent articles. This figure shows how the edges created by cut lines 9 and 10, lock under the crown to afford the necessary vertical support. FIG. 5 also shows that the edges created by cut lines 15 and 16 fold under the crowns 32 and 33, thereby allowing the side panels 11 and 12, to extend downwardly without obstruction. The position of the edges created by cuts 15 and 16 also prevents outward, lateral movement of the crown when the side panels are bonded at points 34 and 35. The bonding of adjacent articles on a lateral plane is also shown in FIG. 3 at a point 37.

FIG. 5 is a section cut laterally across the pair of articles within the handle section of the carrier of this invention. This figure shows how the C-shaped blocking units 30 and 31, lock under the crowns 32' and 33', to afford the necessary vertical support in this section of the carrier. The remaining features which are shown in FIG. 5 are identical with those shown in FIG. 3, and hence, will not be repeated at this point.

FIG. 6 is a section of the package, shown in FIG. 2, cut longitudinally along the center line of said package. This figure shows how the edges created by cut lines 10, 10' and 10" (and 9, 9' and 9", though not shown), lock under the crowns 33, 33' and 33", when the top panel 1, is depressed into a V-shape. Also shown in this figure is an alternate embodiment wherein the articles are bonded together in a longitudinal plane at points 38 and 39.

FIG. 7 is a section cut longitudinally along the center of the carrier of this invention showing the distortion of the handle section, somewhat exaggerated, when the carrier is elevated. As can be seen, the lifting causes the handle section to pivot slightly along scored lines 18, 24, 25 and 26. In addition, it can be seen that the C-shaped blocking unit 30, remains locked under the crown 32, when the carrier is lifted. It will be appreciated that a similar distortion is experienced in that portion of the handle section 17, which is now shown. It can be seen that the edges created by cut lines 10, 10' and 10", remained locked under the crowns 33, 33' and 33", respectively.

FIG. 8 is a section of the package shown in FIG. 2 which is cut laterally across a terminal pair of adjacent articles while said package is held in an elevated position. As can be seen in the figure, the side panels, 11 and 12, extend downwardly, without substantial obstruction, to points 34 and 35, respectively, where they are bonded to the carried articles 36. As can also be seen, the top panel 1, remains in a V-shape at the terminal ends of the package, even when the distortion of the handle section 17, is at a maximum. It will be appreciated, that it is necessary to bond at least one pair of adjacent articles in a lateral plane at point 37, to prevent the articles from spreading at the top upon lifting of the package.

FIG. 9 is a section of the package shown in FIG. 2 cut laterally across all of the articles within the handle section while said package is held in an elevated position. As can be seen, the C-shaped blocking units 30 and 31, remained locked under the crowns 32' and 33', respectively, when the handle section 17, is distorted by the elevation.

**PREFERRED EMBODIMENT**

In a preferred embodiment of the present invention, the blank as shown in FIG. 1, is cut from cardboard. The carrier of the present invention is used to package six containers such as those described in U.S. Pat. 3,772,147, which issued to Richard A. Neumann in Mar. 12, 1973, which comprise an upper portion of glass and a lower portion of a less fragile material, such as a low or medium molecular weight polyethylene. The side panels 11 and 12, as shown in FIG. 2, extend downwardly to a point below the top edge of the less fragile material but not so low as to cover the printed material thereon. The side panels 11 and 12, are glued to each of the articles contained in the carrier at points 34, 34', 34", 35 and 35", as shown in FIG. 2. The adjacent pairs of articles are heat sealed to afford maximum lateral support to the package at points 37, 37' and 37".
Although the present invention has been described and illustrated by reference to a particular embodiment, it will be readily apparent that the present invention lends itself to various modifications which will be obvious to those skilled in the art. The following are intended to illustrate, but not limit, the type of modifications which can be made. For example, the handle section of the top panel 1, as shown in FIG. 1, can be modified by substituting cut lines for the scored lines 18, 19, 20, 21, 24, 25, 26, and 27. This would allow the handle section to lift upon elevation of the carrier without distorting the V-shape at the terminal ends. Similarly, the blank could be easily modified to facilitate the packaging of any number of articles in a single carrier. For practical reasons, the number will, however, generally range between 2 and 12. It will be appreciated that still other modifications can be made without departing from the concept of the present invention. Accordingly, reference should be made solely to the appended claims to determine the scope of the invention.

Having thus described and illustrated the invention what is claimed is:

1. A multiple-article carrier blank which is cut and scored to define the boundaries of a carrier consisting essentially of: a top panel, said top being divided into substantially equal halves by a longitudinally extending fold line; a crown cover panel pivotally connected directly to each of the lateral edges of said top panel; said crown cover panel being further characterized by the presence therein of at least one crown cover which is cut from said top panel at its pivotal connection with each said crown cover panel and shaped such that the edge remaining in said top panel will lock under the crown of a packaged article; and a side panel pivotally connected to each of said crown cover panels.

2. A package comprising a multiple-article carrier in combination with two or more articles, said carrier comprising a depressed top panel, a crown cover panel pivotally connected to each of the lateral edges of said top panel, and a side panel pivotally connected to each of said crown cover panels, each of said side panels being adhesively attached directly to at least one of said articles.

3. The package of claim 2 wherein said depressed top panel comprises two sections which are pivotally connected along a longitudinal axis.

4. The package of claim 3 wherein said depressed top panel is divided into substantially equal halves along a longitudinal axis, said equal halves being pivotally connected along said axis.

5. A package comprising a multiple-article carrier in combination with two or more articles, said carrier comprising a depressed top panel, which depressed top panel locks under the crown of each of said articles, a crown cover panel pivotally attached to each of the lateral ends of said depressed top panel, and a side panel pivotally attached to each of said crown cover panels, each of said side panels being bonded to at least one of said articles.

6. The package of claim 5 wherein said side panels are bonded to each of the articles which contact said panel.

7. The package of claim 5 wherein at least one pair of adjacent articles are bonded in a lateral plane.

8. The package of claim 7 wherein each pair of articles are bonded in a lateral plane.

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